I CLAIM:

1. A Nuclear Myosin I β protein comprising a 16 amino acid N-terminal extension added to a cytoplasmic Myosin I β protein amino acid sequence.

2. The Nuclear Myosin I β protein of claim 1 wherein the amino acid sequence comprises:

mryrasalgs dgvrvtmesa ltardrvgvq dfvllenfts
eaafienlrr rfrenliyty igpvlvsvnp yrdlqiysrq
hmeryrgvsf yevpphlfav adtvyralrt errdqavmis
gesgagktea tkrllqfyae tcpapergga vrdrllqsnp
vleafgnakt lrndnssrfg kymdvqfdfk gapvgghils
ylleksrvvh qnhgernfhv fyqlleggee etlrrlgler
npqsylylvk gqcakvssin dksdwkvmrk alsvidfted
evedllsiva svlhlgnihf aadedsnaqv ttenqlkylt
rllgvegttl realthrkii akgeellspl nleqaayard
alakavysrt ftwlvrkinr slaskdaesp swrsttvlgl
ldiygfevfq hnsfeqfcin ycneklqqlf ieltlkseqe
eyeaegiawe pvqyfnnkii cdlveekfkg iisildeecl
rpgeatdltf lekledtvkp hphflthkla dqktrksldr
gefrllhyag evtysvtgfl dknndllfrn lketmcssmn
pimaqcfdks elsdkkrpet vatqfkmsll qlveilrske
payircikpn dakqpgrfde vlirhqvkyl glmenlrvrr
agfayrrkye aflqrykslc petwpmwagr pqdgvavlvr
hlgykpeeyk mgrtkifirf pktlfateds levrrqslat
kiqaawrgfh wrqkflrvkr saiciqswwr gtlgrrkaak
rkwaaqtirr lirgfilrhs prcpenaffl dhvrasflln
lrrqlprnvl dtswptpppa lreasellre lcmknmvwky
crsispewkq qlqqkavase ifkgkkdnyp qsvprlfist
rlgteeispr vlqslgsepi qyavpvvkyd rkgykprprq
llltpsavvi vedakvkqri dyanltgisv sslsdslfvl
hvqrednkqk gdvvlqsdhv ietltktals adrvnninin
qgsitfaggp grdgiidfts gsellitkak nghlavvapr
lnsr.

3. An oligonucleotide sequence encoding the Nuclear Myosin I β of claim 1.

4. A cDNA molecue with the following nucleotide sequence:

1 ggagcggggc gccgggtccg gcaggatgcg ctaccgggca tcggccctgg gcagtgacgg
61 ggttcgagtg accatggaga gcgccttgac tgcccgagac cgggtagggg tgcaggactt
121 tgtcctgctg gagaatttca ccagtgaggc tgccttcatt gagaacctcc ggcggcggtt
181 ccgggagaac ctcatttata cctacatcgg tcctgtccta gtctctgtca atccctaccg
241 agacctacag atctacagcc ggcagcatat ggaacgctac cgtggtgtca gtttctatga
301 agtaccacct catttgtttg cagtggctga cactgtatac cgggcacttc gtactgagcg
361 tcgggaccag gcagtgatga tttctggaga gagtggggca ggcaagacag aggccaccaa
421 gagactgctc cagttctatg cagagacctg cccagcccct gaacggggtg gcgcagtgcg
481 agaccgcctg ttgcagagca accccgtgtt agaggccttt gggaatgcca agactctccg
541 caacgataac tccagccggt ttggaaagta catggatgtg cagtttgact tcaagggtgc
601 ccccgtggga ggccacattc tcagttacct cctggaaaag tcccgggtgg tgcaccaaaa
661 tcacggagag cggaacttcc acgtctttta ccagctactg gagggggcg aggaggagac
721 tctccgtcgg ctgggcttgg aacggaaccc ccagagctac ttgtacctgg tgaagggcca
781 gtgtgccaag gtctcctcca tcaacgacaa gagtgactgg aaggttatga ggaaggcgct
841 gtccgtcatt gacttcactg aggatgaagt ggaggacttg ctcagcatcg

tggccagcgt
901 cctacatctg ggcaacatcc actttgctgc tgacgaggac agcaatgccc
aggttactac
961 tgagaaccag ctcaaatatc tgaccaggct ccttggtgtg gaaggtacaa
cacttaggga
1021 agccctgacc cacaggaaga tcatcgccaa gggggaagag ctcctgagcc
cactgaacct
1081 tgaacaggcg gcatatgcaa gggatgcgct tgccaaggct gtgtacagcc
ggacattcac
1141 ctggctggtc agaaagatca ataggtcact ggcctctaag gacgctgaga
gccccagctg
1201 gcgaagcacc acggttcttg ggctcctgga catttacggc tttgaagtgt
ttcagcataa
1261 cagcttcgag cagttctgca tcaactactg caatgagaag ctgcagcagc
tcttcatcga
1321 gctgactctc aagtcggagc aggaggaata cgaggctgag ggcatcgcgt
gggaacctgt
1381 ccagtacttc aacaacaaga tcatctgtga cctggtagag gagaagttca
agggcatcat
1441 ctccatcttg gatgaagagt gcctgcgtcc tggggaggcc acggacctga
cctttctgga
1501 gaagttggag gacactgtca agccccaccc tcacttcctg acgcacaagc
tcgctgacca
1561 gaagaccagg aaatccctag accgagggga gttccgcctt ctgcattatg
ctggagaggt
1621 gacctacagt gtgactgggt ttctggataa aaacaatgac ctcctcttcc
ggaacctgaa
1681 ggagaccatg tgcagctcaa tgaaccccat catggcccag tgctttgaca
agagtgagct
1741 cagtgacaag aagcggccag gacggtggc cacccagttc aagatgagcc
tcctgcagct
1801 cgtggagatc ctgaggtcta aggagcctgc ctatatccgg tgcatcaagc

caaacgacgc

1861 caagcagccg ggtcgctttg atgaggtgct catccgacat caggtgaagt acctgggact

1921 gatggagaat ctgcgcgtgc gcagagctgg ctttgcctat cgtcgcaaat atgaggcttt

1981 cctgcagagg tacaagtcac tgtgcccaga gacatggccc atgtgggcag gacggcccca

2041 ggatggtgtg gccgtgttgg tcagacacct cggctacaag ccagaagagt acaaaatggg

2101 caggactaag atcttcatcc gattccccaa gaccttattt gccacagagg actccctgga

2161 agtccggcgg cagagtctag ccaccaagat ccaggcggcc tggaggggct ttcattggcg

2221 acagaaattt ctccgggtga agcgatcagc catctgtatc cagtcatggt ggcgtggcac

2281 actgggccgg aggaaggcag ccaagaggaa gtgggcagcc cagaccatcc gtcgactcat

2341 ccgtggcttc attttgcgcc attcaccccg gtgccctgag aatgccttct tcttggacca

2401 cgtgcgcgcc tcatttttgc ttaacctgag gcggcaactg ccccggaatg ttctggacac

2461 ctcctggccc acacccccac ctgccctgag agaggcctca gaactgctac gggaactgtg

2521 catgaagaac atggtgtgga agtactgccg gagcatcagc cctgagtgga agcagcagct

2581 gcagcaaaag gcggtggcta gtgaaatttt caagggcaag aaggacaact accccagag

2641 tgtccccaga ctcttcatta gcacacggct tggcacagag gagatcagcc ccagagtgct

2701 tcaatccttg ggctctgaac ccatccagta tgccgtgccc gtggtaaaat acgaccgtaa

2761 gggttacaag cctcgccccc ggcagctgct gctcacgccc agtgctgtgg

tcattgtgga

2821 ggatgctaaa gtcaagcaga gaattgatta tgccaaccta accggaatct
ctgtcagtag

2881 cctgagtgat agcctatttg tgcttcacgt gcagcgtgaa gacaacaagc
agaagggaga

2941 tgtggtgctg cagagtgatc atgtgatcga gacactaacc aagacggccc
tcagtgctga

3001 ccgcgtgaac aatatcaaca tcaaccaggg cagcataacg tttgcagggg
gtccaggcag

3061 ggacggcatc attgacttca catcgggctc agagcttctc atcaccaagg
ctaagaatgg

3121 ccacctggct gtggtggccc cacggctgaa ttctcggtga tgaaggctgc
ggtggaccgc

3181 tcctgactcc tgatgcttcc cttagtcccc tcctcccctc cgacttacca
aaaactcaag

3241 cttccaaaca gggatccatg gacaccctca aaacccacgc tgcaaactcc
tgccttctgc

3301 tcgccccctc ttgaggtgat caggagccag ggagctaccc catgagtggg
ccaggccggg

3361 ccacaccaat agaaaagcag aggcctgagc aggccaggcc agccctctgc
tgatgccaaa

3421 tatctaagac aagggaattt taactgaggt tttctctgag atttttgat
gctttatagg

3481 aaactatttt tttaagaaag ccattttcct accctaaaca cactggatgt
gtttttccct

3541 gcctcgaaca gggcaaggaa tgtaactgaa agactgactg ggctgggctg
gaaggtcctc

3601 ttcttggcca acccttcctt attcccttgt ctgcctgtcc atccacctgc
accttttag

3661 cca.

5. A peptide comprising an amino acid sequence MRYRASALGSDGVRVT.

6. A cDNA molecule encoding the peptide of claim 4.

7. The peptide of claim 5 comprising an epitope with the amino acid sequence FLAG.

8. An antibody directed to the Nuclear Myosin I β protein of claim 2.

9. An antibody directed to the peptide of claim 4.

10. The antibody of claim 7, wherein the antibody is a monoclonal antibody.

11. An antibody directed to the peptide of claim 7.

12. A functional complex formed between one RNA polymerase II.

13. A method for inhibiting cell proliferation, said method comprising:

(a) obtaining at least one antibody to the peptide of claim 5; and

(b) administering the antibody to an organism so that the antibody contacts cells.

14. The method of claim 13 wherein the antibody is a monoclonal antibody.

15. The method of claim 13 wherein the antibody is a synthetic compound.

16. A method for inhibiting cell proliferation, said method comprising

a) obtaining an antisense oligonucleotide to the cDNA of claim 3;

(b) contacting the cDNA with the antisense oligonucleotide to prevent expression of the cDNA and reduce cell proliferation.

17. A method for screening a candidate agent that inhibits transcription, said screening method comprising the antibodies in claim 9.

(a) providing proliferating cells;

(b) contacting the cells with the candidate agent;

(c) determining whether nuclear myosin I β (MNI β) is translocated to the nucleus of the cells; and

(d) inferring that the candidate agent is an inhibitor of cell proliferation if NMI β is not detected in the cells nucleus.